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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS
DIVISION OF AGRICULTURAL ENGINEERING.

S. H. McCORMICK, CHIEF.

MONTHLY NEWS LETTER

WASHINGTON, D.C., APRIL 20, 1926.

ON APRIL 14 MR. A. L. BEALL OF PHILADELPHIA, AN ENGINEER OF THE VACUUM OIL COMPANY, GAVE AN INSTRUCTIVE ILLUSTRATED TALK BEFORE THE DIVISION STAFF ON LUBRICATION, WITH SPECIAL REFERENCE TO INTERNAL COMBUSTION ENGINES.

THE MATTER OF A CLASSIFICATION OF AGRICULTURAL ENGINEERING SUBJECTS IS ONE THAT HAS FOR A NUMBER OF YEARS BEEN GIVEN SERIOUS CONSIDERATION BY VARIOUS AGENCIES, PARTICULARLY THE STATE COLLEGE AGRICULTURAL ENGINEERING DEPARTMENTS AND THE AMERICAN SOCIETY OF AGRICULTURAL ENGINEERS. THE MATTER WAS FINALLY PUT UP TO THIS DIVISION AND FOR THE PAST SEVERAL MONTHS L. A. JONES AND OTHER MEMBERS OF THE STAFF HAVE BEEN ENGAGED IN WORKING OUT A SCHEDULE THAT WOULD MEET GENERAL APPROVAL. THE WORK HAS FINALLY BEEN COMPLETED AND A COPY WILL BE SENT TO EACH ENGINEER IN THE NEAR FUTURE. THE CLASSIFICATION WILL PROVIDE A BASIS FOR A LOGICAL ARRANGEMENT FOR QUICK REFERENCE, OF REPORTS, BULLETINS, BOOKS, PHOTOGRAPHS, AND OTHER INFORMATION MEDIUMS.

F. O. BARTEL IS GIVING SOME TIME TO THE PREPARATION OF A MOTION PICTURE FILM ON TERRACING. REPRESENTATIVES OF THE MOTION PICTURES LABORATORY, ACCCOMPANIED BY MR. BARTEL, HAVE SPENT SEVERAL DAYS SECURING SUITABLE VIEWS IN NORTH CAROLINA, SOUTH CAROLINA AND GEORGIA. THERE HAVE JUST BEEN COMPLETED A REEL "TURN ON THE WATER," DEALING WITH FARM WATER SUPPLY, AND "DYNAMITE - CONCENTRATED POWER" DEVOTED TO THE USE OF EXPLOSIVES ON THE FARM. THESE REELS ARE AVAILABLE FOR LOAN TO STATE EXTENSION AGENCIES.

R. D. MARSDEN IS BEGINNING A FIELD TRIP THAT WILL COVER MOST OF THE SOUTHERN STATES, IN CONNECTION WITH A COOPERATIVE PROJECT WITH THE BUREAU OF AGRICULTURAL ECONOMICS WHICH HAS FOR ITS OBJECT AN ANALYTICAL STUDY OF THE PROGRESS IN THE DEVELOPMENT OF LAND IN DRAINAGE DISTRICTS. R. P. TEELE WILL REPRESENT THE BUREAU OF AGRICULTURAL ECONOMICS.

THERE HAS JUST BEEN AUTHORIZED A PROJECT, TO BE CONDUCTED IN COOPERATION WITH THE FOREST SERVICE, INVOLVING AN EXPERIMENTAL STUDY OF THE EFFECTS OF DRAINAGE OF SWAMPS UPON TIMBER GROWTH. ONE OR MORE FORESTED SWAMP AREAS, IN THE SUPERIOR OR MINNESOTA NATIONAL FORESTS, WILL BE SURVEYED AND DRAINED AND ACCURATE RECORD KEPT OF THE EFFECT ON THE TREES. AMONG THE

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PHASES OF THE QUESTION TO BE INVESTIGATED ARE: EFFECT OF GRADUAL AND SHALLOW DRAINAGE; EFFECT OF RAPID AND DEEP DRAINAGE; EFFECT ON DIFFERENT DEPTHS OF PEAT; DISTANCE FROM DRAINS EFFECT ON TREES IS NOTICEABLE.

D. G. MILLER WILL HAVE CHARGE OF THE PROJECT FOR THIS DIVISION. WORK WILL BE BEGUN AT ONCE.

IN LINE WITH THE DEPARTMENT POLICY OF CONCENTRATING THE ENGINEERING PERSONNEL IN THE BUREAU OF PUBLIC ROADS, MR. J. T. BOWEN HAS BEEN TRANSFERRED FROM THE BUREAU OF DAIRYING TO THIS DIVISION WITH THE TITLE OF ELECTRICAL ENGINEER. MR. BOWEN'S SERVICES WILL CONTINUE TO BE AVAILABLE TO OTHER BUREAUS OF THE DEPARTMENT WHO DESIRE TECHNICAL ASSISTANCE IN THE FIELD OF MECHANICAL AND ELECTRICAL ENGINEERING.

DURING MARCH THE SHIPMENTS OF PYROTOL FOR LANDCLEARING, FROM THE THREE CARTRIDGING PLANTS WERE AS FOLLOWS:

BARKSDALE, Wis.	1,310,300	LBS.
GIBBSTOWN, N.J.	268,350	"
DuPONT, Wash.	<u>872,000</u>	"
TOTAL	2,450,650	"

WITH THE APPROACH OF THE FARMING SEASON THE DEMAND IS FALLING OFF CONSIDERABLY.

W. W. McLAUGHLIN VISITED DENVER AND FORT COLLINS, COLORADO, AND SALT LAKE AND LOGAN, UTAH, TO CONFER WITH REPRESENTATIVES OF THE OFFICE AND COOPERATING AGENCIES. HE ALSO WENT OVER THE COOPERATIVE DUTY OF WATER WORK BEING CARRIED ON IN SAN DIEGO COUNTY, CAL. IN COMPANY WITH HARRY F. BLANEY HE CONSULTED WITH THE LOS ANGELES WATER BUREAU REGARDING PROPOSED INVESTIGATIONS IN SAN FERNANDO VALLEY.

O.V.P. STOUT ADDRESSED THE DELTA FARM CENTER AT COURTLAND, CAL., ON LOCAL DRAINAGE PROBLEMS, AND ADDRESSED THE PLANT SCIENCE SEMINAR AT DAVIS ON THE GRAVITY MOVEMENT OF WATER UNDER PRESSURE IN SOILS.

E. J. HOFF IS IN RECEIPT OF A LETTER FROM E. LINDQUIST, OF THE HYDRAULIC LABORATORY, STOCKHOLM, SWEDEN, IN WHICH MR. LINDQUIST STATES THAT A HOFF CURRENT METER WHICH HAD BEEN RATED AT BERKELEY HAS BEEN RE-RATED AT STOCKHOLM IN A WELL EQUIPPED RATING STATION, DEVELOPING A CURVE IDENTICAL WITH THAT SECURED AT BERKELEY.

ACCORDING TO L. T. JESSUP, ON THE SUNNYSIDE DIVISION OF THE YAKIMA PROJECT, WASHINGTON, THE SULPHUR CREEK WASTEWAY SERVES AS AN OUTLET FOR 90 MILES OF DRAINS COVERING 43.66 SQUARE MILES OF IRRIGATED LAND. DAILY RECORDS OF DISCHARGE COVERING A PERIOD OF SEVERAL YEARS SHOW THAT THE ANNUAL RUN-OFF VARIES FROM 1.30 TO 1.44 ACRE-FEET PER ACRE, ABOUT 70 PER CENT OF WHICH OCCURS DURING THE IRRIGATION SEASON, THIS BEING 29 PER CENT OF THE TOTAL WATER (INCLUDING PRECIPITATION) DIVERTED TO THE AREA AND IS LESS THAN THE SUM OF THE CANAL AND LATERAL LOSSES PLUS PRECIPITATION. THE MAXIMUM DISCHARGE (10-DAY AVERAGE) WAS 2.05 SECOND-FEET PER SQUARE MILE AND 1.00 SECOND-FOOT PER LINEAR MILE OF DRAIN.

R. L. PARSHALL DIRECTED THE INSTALLATION OF A 10-FOOT IMPROVED VENTURI FLUME ON THE LAS ANIMAS CONSOLIDATED DITCH, IN ARKANSAS VALLEY, COLO., STATING THAT A HEAD OF WATER WAS TURNED IN AND THE CONDITION OF FLOW FOR A DISCHARGE OF APPROXIMATELY 60 SECOND-FEET WAS ALL THAT COULD BE DESIRED. A REINFORCED CONCRETE FLUME OF THE SAME DIMENSIONS IS ABOUT TO BE CONSTRUCTED IN THE DYE LAKE OUTLET OF HOLBROOK IRRIGATION DISTRICT. THESE LARGE FLUMES WILL PRODUCE MORE RELIABLE INFORMATION ON THE ACTION OF THIS DEVICE FOR CAPACITIES BEYOND LABORATORY FACILITIES. A NUMBER OF 6-FOOT FLUMES ARE NOW IN OPERATION IN THE COLORADO RIVER DRAINAGE AND PLANS ARE UNDER WAY FOR CONSTRUCTION OF OTHERS. MR. PARSHALL HAS RECENTLY HAD REQUESTS FOR INFORMATION ON THE IMPROVED VENTURI FLUME FROM BRITISH COLUMBIA, HAWAIIAN ISLANDS, HONDURAS, AND THE ARGENTINE.

CARL ROHWER HAS COMPILED RESULTS OF EVAPORATION FROM THE STANDARD TANK OF THE COLORADO EXPERIMENT STATION, COVERING THE PERIOD FROM 1890 TO 1917, BY MONTHS FROM APRIL TO OCTOBER. THESE DATA WHEN COMPARED WITH THE MONTHLY VALUES COMPUTED FROM THE FORMULA DERIVED FOR THE COOPERATIVE LABORATORY EXPERIMENT AGREE QUITE CLOSELY EXCEPT IN A FEW INSTANCES: THE MEANS OF THE OBSERVED AND COMPUTED EVAPORATION FOR THE ENTIRE PERIOD ARE ALMOST IDENTICAL, DIFFERING BY ONLY $\frac{1}{4}$ PER CENT.

L. M. WINSOR HAS COMPLETED ARRANGEMENTS FOR CONTINUING THE STUDY OF GRAVEL CONTROL IN MOUNTAIN STREAMS AT HIGH WATER TIME. TEN OF THE PRINCIPLE GRAVEL BARRIERS CONSTRUCTED IN NINE OF UTAH'S MOUNTAIN STREAMS WILL BE WATCHED CLOSELY DURING THE PERIOD OF HIGH WATER FLOW BEGINNING IN APRIL AND CONTINUING UNTIL THE EARLY PART OF JUNE.

DEAN W. BLOODGOOD HAS SUBMITTED A PROGRESS SUMMARY OF RESULTS OF OBSERVATIONS OF TEST WELLS ACROSS THE MIDDLE RIO GRANDE VALLEY, NEW MEXICO, TO THE 1ST OF APRIL.

T. A. H. MILLER HAS COMPILED THE FOLLOWING REFERENCES TO WOOD PRESERVATION CONTAINED IN THE PROCEEDINGS OF THE AMERICAN WOOD-PRESERVERS' ASSOCIATION, CHICAGO:

CAUSES OF DECAY IN TIMBER, 1907
HEART WOODS WHICH CAN BE TREATED, 1909
TREATMENT OF DEAD WOOD, 1909
INFLAMMABILITY OF TREATED TIMBER, 1909
CREOSOTING DOUGLAS FIR, 1909 AND 1916
WOOD BLOCK PAVING, 1911
EVAPORATION OF CREOSOTE AND CRUDE OILS, 1912
BIBLIOGRAPHY OF WOOD BORING CRUSTACEANS, 1915
APPARENT RELATION BETWEEN RAINFALL AND THE
DURABILITY OF ZINC TREATED CROSS-TIES, 1919
HISTORY AND GROWTH OF THE TREATED WOODEN SILO, 1921
CREOSOTED LUMBER IN CONNECTION WITH THE FARM AND RANCH, 1921
TREATED TIMBER FOR INSULATING ROOFS OF MOIST FACTORIES, 1921
HISTORY OF WOOD PIPE AND SOME DATA ON ITS USE, 1921
CREOSOTE TREATMENT FOR DOUGLAS FIR STAVE PIPES, 1921
SERVICE TESTS OF TREATED AND UNTREATED FENCE POSTS, 1921
USE OF CREOSOTED WOOD CONDUIT ON PACIFIC COAST, 1921
WOOD PIPE AND THE CREOSOTING PROCESS, 1922
PRESERVATIVE OILS FOR SURFACE TREATMENTS OF STRUCTURAL
TIMBERS, 1923
CREOSOTED WATER TANKS, 1923
PRESERVATION OF TIMBER BY FLUORINE SALTS AND ORGANIC
COMPOUNDS, 1923
HISTORY AND USE OF ZINC CHLORIDE AS A WOOD PRESERVATIVE, 1924
RELATIVE COST OF TREATED AND UNTREATED TIMBER, 1925
OILS AND OTHER TOXIDS WHICH ARE OR MIGHT BE SUITABLE FOR
WOOD PRESERVATION, 1925.

REFERENCES RELATING TO TILE DRAINAGE - CONTINUED

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